

## CONDUCTIVE ELASTOMERIC FOAMS AND METHOD OF MANUFACTURE THEREOF

### Abstract

- 5           A conductive polymer composite, comprising a polymer and polypyrrole and derivatives thereof. The composite is manufactured by first diffusing an oxidant such as iodine into the polymer, and then diffusing pyrrole or a pyrrole derivative vapor into the impregnated polymer, resulting in an *in situ* chemical oxidative polymerization of pyrrole at the oxidant site. The conductivity of the composite foam can be effectively controlled
- 10   between  $10^{-7}$  to  $10^{-1}$  S/cm, inclusive.